

United States Coast Guard



**K-BOAT
INSPECTION BOOK**

Name of Vessel		
Official Number		
Date Completed	Location	
SOLAS Certificates Issued		
Yes	No	
Route		
Oceans	Limited Coastwise	Lakes / Bays / Sounds
Coastwise	Great Lakes	Rivers
Inspection Type		
Inspection for Certification (COI)	Reinspection	Drydock Inspection
Streamlined Inspection Program (SIP) Participant		
Yes	No	
Inspectors		
1. _____	2. _____	

Total Time Spent Per Activity:

Regular Personnel (Active Duty)			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS
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Reserve Personnel			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS
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Auxiliary Resources	
TOTAL BOAT HOURS	TOTAL AIRCRAFT HOURS

Use of K-Boat Inspection Book:

This inspection book is intended to be used as a job aid by Coast Guard marine inspectors during inspections of U.S. flagged small passenger vessels subject to Subchapter K (vessels under 100 GT, carrying more than 150 passengers or more than 49 overnight passengers). The lists contained within this book are not intended to limit the inspection. Each marine inspector should determine the depth of inspection necessary. A checked box should be a running record of what has been inspected. It does not imply that the entire system has been inspected or that all or any items are in full compliance. This job aid does not constitute part of the official inspection record.

This document does not establish or change Federal laws or regulations. References given are only general guides. Refer to IMO publications, CFR's, NVIC's or any locally produced cite guides for specific regulatory references. Not all items in this book are applicable to all vessels.

NOTE: *Guidance on how to conduct inspections of U.S. flagged small passenger vessels can be found in the Marine Safety Manual (MSM) Volume II, Chapter B1: Inspection of Vessels for Certification. All MSM cites listed in this book refer to MSM Volume II unless otherwise indicated.*

Pre-inspection Items:

- Review MSIS records.
 - MIPIP
 - MICOI
- Obtain copies of forms to be issued.

Post-inspection Items:

- Issue letters/certificates to vessel.
- Complete MSIS entries.
 - MIAR
 - MSDS
 - MIDR
 - VFLD
 - VFID
- Initiate Report of Violation (ROV) if necessary

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Section 1: Administrative Items

IMO Applicability Dates:

Reference	Date
SOLAS 1960	26 MAY 65
SOLAS 1974	25 MAY 80
1978 Protocol to SOLAS 1974	01 MAY 81
1981 Amendments (II-1 & II-2)	01 SEP 84
1983 Amendments (III)	01 JUL 86
<i>Various additional amendments to SOLAS</i>	
MARPOL 73/78 Annex I	02 OCT 83
MARPOL 73/78 Annex V	31 DEC 88
COLREGS 1972	15 JUL 77
<i>Various additional amendments to COLREGS</i>	
Load Line 1966	21 JUL 68
STCW 1978	28 APR 84
1991 Amendments	01 DEC 92
1994 Amendments	01 JAN 96
1995 Amendments	01 FEB 97

Involved Parties & General Information:

Vessel's Representatives _____ _____
Phone Numbers

Owner—Listed on DOC (if applicable), or COFR
No Change

Operator
No Change

Vessel Information:

Last Drydocking Date	Next Drydocking Date	
Location of Last Drydocking		
Built Date (use delivery date)		
Overall Length (in feet)		
Maximum Passengers Allowed		
Overnight Accommodations		
Yes	No	If yes, how many? _____

Section 2: Certificates and Documents

Name of Certificate	Issuing Agency	ID #	Port Issued/ Country	Issue Date	Exp. Date	Endors. Date
Certificate of Documentation No Change	USCG					
Passenger Ship Safety (PSS) No Change	USCG					
Load Line No Change						
International Tonnage (ITC) No Change						
Safety Management (SMC) No Change						
Document of Compliance (DOC) No Change						
FCC Station License No Change	FCC					

Name of Certificates	Issuing Agency	ID #	Port Issued/ Country	Issue Date	Exp. Date	Endors. Date
FCC Safety Certificate No Change	FCC					
FCC Operations Permit No Change	FCC					
FCC Marine Radio Operator Permit No Change	FCC					

Certificates:

- COI posted 46 CFR 115.107
46 CFR 115.302
 - All pages visible
- Stability letter posted 46 CFR 115.306
- Small Passenger Vessel (SPV) decal posted 46 CFR 115.310
- Station bill posted 46 CFR 122.514
(vessels > 65 feet with more than 4 crew members)
- Passenger safety bill posted 46 CFR 122.515
- Waste management plan 33 CFR 151.57
(oceangoing vessels ≥ 40 feet)
- Red Cross first aid / CPR cards for 50% of crew NVIC 1-91
- Annual drug and alcohol program audit 46 CFR Part 16
- Liferaft servicing certificates 46 CFR 160.151-57(p)
SOLAS 74/78 III/19.8
 - Annual service
- Fixed fire extinguisher servicing certificates 46 CFR 115.810(b)(2)
 - Annual service
- Required international safety convention certificates posted and valid 46 CFR 115.302

Manning Certification:

- Operator's license 46 CFR 15.805
46 CFR 122.402
 - Name
 - Issue date
 - Tonnage
 - Route

Notes: _____

- Mate's license
 - Name
 - Issue date
 - Tonnage
 - Route
- 46 CFR 15.810
46 CFR 122.402

Logs and Manuals:

- Current training logbook
 - Date
 - General description of training
 - Lifesaving equipment maintenance record
 - Periodic checks as required
 - Onboard training in use of lifesaving equipment (all crew members)
 - Visual inspection of survival craft / rescue boat and launching appliances
 - Operation of lifeboat / rescue boat engines
 - Lifesaving appliances, including lifeboat equipment examined
 - Bridge log
 - Steering gear drills
 - Emergency steering drills
 - Monthly fire and lifeboat drills
 - Casualties (navigation equipment and steering gear failures reported)
 - SOLAS training manual
- 46 CFR 122.420
- 46 CFR 122.702
SOLAS 74/78 III/18
SOLAS 74/78 III/19
- SOLAS 74/78 V/19-2
- SOLAS 74/78 III/25
46 CFR 122.702
46 CFR 122.520
46 CFR 122.524
- SOLAS 74/78 III/18.2

Notes: _____

Section 3: Inspection Items

Navigation Safety:

- Voyage plan 46 CFR 122.503
(vessels on oceans / coastwise routes, vessels with overnight passengers)
- Passenger count 46 CFR 122.504
(if voyage plan not required)
- Emergency instruction list posted 46 CFR 122.510
- Navigation publications 46 CFR 121.420
 - Current and corrected charts (large enough scale to navigate safely)
 - U.S. Coast Pilot
 - Coast Guard Light List
 - Tide tables
 - Tidal current tables
 - International Rules of the Road (SOLAS only)
- Navigation lights tested 46 CFR 120.420
(vessels > 65 feet must meet UL 1104) 33 CFR Part 84 72 COLREGS
 - Side shields
 - Fitted as needed
 - Painted black matte
- Radar 46 CFR 121.404
- Magnetic compass 46 CFR 121.402
(vessels on oceans / coastwise / limited coastwise routes)
 - Illuminated (unless limited to daytime operations)

Notes: _____

Signaling devices

- Sound 33 CFR Part 86
 - Whistle / horn tested
 - Proper bell size
- Distress 46 CFR 117.68
 - Flares and day smokes (correct number and expiration)
 - Stowed in brightly colored, portable watertight container
 - Marked "Distress Signals" 46 CFR 122.614
 - Substitutions with proper expiration date

IF vessel travels:	THEN it must carry:
Oceans / coastwise / limited coastwise / Great Lakes route	6 red hand flares and 6 orange day smokes
Lakes, bays, sounds / rivers route	3 red hand flares and 3 orange day smokes

Internal communications tested 46 CFR 121.602

- A fixed means of two-way communication from
 - Operating station to machinery space (single screw vessels)
 - Operating station to auxiliary steering (single screw vessels)
 - Hand-held radios acceptable

Pilothouse control of propulsion engine systems 46 CFR 121.620

Notes: _____

- Radio equipment 46 CFR 121.502
47 CFR 80.905

IF vessel travels:	THEN it must have:
More than 1000 feet from shore but less than 20 NM	1 VHF
20 NM to 100 NM	1 VHF and 1 MF
100 NM to 200 NM	1 VHF, 1 MF, 1 SSB or INMARSAT radio, and 1 NAVTEX receiver
More than 200 NM	2 VHF, 1 MF, 1 SSB or INMARSAT radio, 1 NAVTEX receiver, 1 distress frequency receiver, and 1 automatic radiotelephone alarm signal generator

- Emergency broadcast placard posted 46 CFR 121.506
- Electronic position fixing device 46 CFR 121.410
(vessels on oceans routes only)
- EPIRB (406 MHz) tested 46 CFR 122.728
 - Float-free arrangement 46 CFR 117.64
 - Battery expiration date
 - HRU / Hydro expiration date
 - NOAA registered
 - Tests logged
 - Marked with vessel name 46 CFR 122.604(c)
- Public address system tested 46 CFR 121.610

IF vessel is:	THEN vessel must have:
> 65 feet	Fixed installation
≤ 65 feet	Battery bullhorn
Has more than one passenger deck or has overnight accommodations	A PA system that is operable from the operating station

Notes: _____

- Bridge windows
 - Safety glass 46 CFR 116.1010
 - Adequate strength 46 CFR 116.1020
 - Allow 70% light / safety glass 46 CFR 116.1030

Structural Integrity:

- External hull structure 46 CFR 115.802
46 CFR 116.300
 - Decks
 - Shell
 - Bulkheads
 - Strength members
 - Visible damage
 - Obvious repairs, modifications, or alterations
 - Rails / guards
- Hull markings 46 CFR 122.602
 - Draft marks and loading marks 46 CFR 67.123
 - Name / hailing port
- Internal compartment structures 46 CFR 115.802
 - Dry
 - Visible damage
 - Obvious repairs, modifications, or alterations
 - Means of escape
 - Ceilings
 - Inspection ports / ventilation
 - Rails / guards
- Structural fire protection boundaries 46 CFR 116.415
 - Bulkheads and decks meet required rating
 - Penetrations equal to bulkhead rating
 - Main vertical zones
 - Draft stops

Notes: _____

- Noncombustible trim 46 CFR 116.422
 - Ceilings
 - Interior finish
 - Decorations
 - Reasonable paint coatings
- Fire-resistant furnishings 46 CFR 116.423
 - Furniture meets UL Std. 1056
 - Draperies and curtains meet NFPA Std. 701
 - Rugs and carpet meet ASTM E-84 or E-648
- Fire loads 46 CFR 116.427
 - Low-risk areas < 3 pounds / square feet
 - High-risk areas < 7.5 pounds / square feet
- Windows in fire control boundaries 46 CFR 116.433
 - Laminated glass
 - Steel frames
- Fire doors 46 CFR 116.435
 - A-60, A-30, A-15 bulkhead = A-15 door
 - A-0 bulkhead = A-0 door
 - Self-closing (stairtower and MVZ)
 - Operable from either side
- Stairtowers 46 CFR 116.438
 - Rails
 - Obstructions
- Balconies 46 CFR 116.439
 - Automatic sprinkler system
 - Each level with two means of escape
- Atriums 46 CFR 116.440
 - Smoke detection system (vessels with overnight passengers)
 - Smoke extraction system
 - Automatic sprinkler system
 - Each level with two means of escape

Notes: _____

- Watertight integrity 46 CFR 115.802
 - Subdivision watertight bulkheads 46 CFR 116.1160
 - Watertight doors / hatches 46 CFR 171.124
 - Operable from both sides
 - Captive devices attached to all unhinged covers
 - Coamings (6 inches-exposed routes; 3 inches-protected routes)
 - Knife edges
 - Gaskets
 - Hardware
 - Closure means for openings in hull (local and remote)
- Scuppers / freeing ports 46 CFR 171.145
46 CFR 171.150
- Dead light covers on port lights below main deck 46 CFR 171.117
- Deck rail 46 CFR 116.900
 - Height requirements (39.5 inches minimum)
 - Point load requirements (200 lbs. minimum)

General Health and Safety:

- General alarm tested 46 CFR 120.550
- Upper decks marked for maximum number of passengers per stability letter 46 CFR 122.602(g)
- Crew accommodations 46 CFR 116.730
(vessels > 65 feet with > 49 overnight accommodations must comply with applicable Subchapter H requirements)
 - Adequate berthing 46 CFR 116.710
 - Sanitary conditions 46 CFR 115.818
- Passenger accommodations
 - Adequate berthing 46 CFR 116.810
 - Adequate seating 46 CFR 116.820
 - Sanitary conditions 46 CFR 115.818

Notes: _____

- Emergency evacuation plan 46 CFR 116.520
 - Describe actions for fires and flooding
 - Evacuating procedures
 - Refuge area (3 square feet / person)
 - Show two means of escape from each space
 - Abandon ship plan

- Means of escape 46 CFR 116.500
 - Operable from both sides
 - Marked "Emergency Exit, Keep Clear" 46 CFR 116.606

- Embarkation stations 46 CFR 116.510
 - Handholds
 - Well-illuminated
 - Handrails and lifelines with openings to allow passengers to board survival craft

- Cooking and heating systems
 - LPG / CNG stowage 46 CFR 121.240
 - Shutoff valves installed on gas systems 46 CFR 121.220
 - Sea rails installed on galley stoves

- Sanitary inspection 46 CFR 115.818
 - Galley
 - Serving pantries
 - Lockers

- Ventilation 46 CFR 116.600
 - Remote shutdown

- Passenger Safety Orientation 46 CFR 122.506
 - Public announcement
 - Card or pamphlet

- Crew and passenger list 46 CFR 122.502

Notes: _____

Ground Tackle:

- Proper ground tackle 46 CFR 121.300

Number of Anchors	Weight (lbs.)

Number of Cables	Length	Size

- Mooring lines 46 CFR 121.300
- Sails and rigging 46 CFR 116.330

Lifesaving Equipment:

- Stowage of survival craft 46 CFR 117.130
46 CFR 117.137
- Embarkation aids 46 CFR 117.150
- Number and type of survival craft 46 CFR 117.200

Item	Number	Capacity (Persons)

Notes: _____

- Lifefloats and buoyant apparatus
 - Coast Guard approval 46 CFR 117.200(a)(2)
 - Lifeline 46 CFR 117.175(d)
 - Pendants 46 CFR 117.175(f)
 - Two paddles per lifefloat 46 CFR 160.010-8
 - 4 feet in length
 - Marked with vessel name 46 CFR 122.604(g)
 - Waterlight with proper battery
 - Properly mounted, secure splices
 - Watertight globe
 - Float-free
 - Marked with vessel name 46 CFR 122.604(a)
 - Stowage 46 CFR 117.130
 - Properly sized and approved weak link 46 CFR 117.137
 - Sea painter 46 CFR 160.037
 - Retro-reflective tape NVIC 2-63
- Inflatable buoyant apparatus 46 CFR 117.200(a)(4)
 - Annual service 46 CFR 160.010
- Inflatable liferafts 46 CFR 117.200(a)(1)
 - Capacity of 6 or more persons
 - Stowage 46 CFR 117.130
 - Float-free
 - Annual service 46 CFR 160.151
- Inflatable survival craft placards posted 46 CFR 122.518
- Rescue boats / rescue platforms 46 CFR 117.210
(vessels > 65 feet)
 - Marked with vessel name 46 CFR 122.604(a)(1)
 - Capacity 46 CFR 122.604(d)
 - Retro-reflective tape 46 CFR 122.604(i)
 - Small, lightweight with floatation NVIC 1-87
 - Readily launched, easily maneuvered
 - Capable of recovering person without capsizing

Notes: _____

- Survival craft maintenance**
(vessels > 65 feet)
 - Manufacturer's instructions on board 46 CFR 122.702
 - Inspections / examinations logged 46 CFR 122.720
 - Weekly / monthly / quarterly / annually inspected / examined 46 CFR 122.722
 - Weekly / monthly / quarterly / annually inspected / examined 46 CFR 122.724
 - Weekly / monthly / quarterly / annually inspected / examined 46 CFR 122.726

- Lifejackets** 46 CFR 117.71
Adult _____ Children _____(10%)
 - Retro-reflective tape 46 CFR 122.604(h)
 - Lights (vessels on oceans / coastwise / Great Lakes routes) 46 CFR 117.75
 - Watertight
 - Batteries dated or changed annually
 - Marked with vessel name 46 CFR 122.604(b)
 - Stowage 46 CFR 117.78
 - Marked
 - Child size PFDs separate from adult PFDs 46 CFR 122.604(f)
 - Unlocked
 - If over 7 feet high, check quick release mechanism
 - PFDs carried in addition to lifejackets 46 CFR 117.72
 - Number of lifejackets rejected by inspector _____

- Lifejacket donning placards posted** 46 CFR 122.516

- Ring lifebuoys** 46 CFR 117.70
 - Orange if vessel on oceans / coastwise
 - Lifeline (60 feet long)
 - Watertight with 3-foot lanyard and corrosion-resistant clip
 - Retro-reflective tape 46 CFR 122.604(i)
 - Marked with vessel name 46 CFR 122.604(a)
 - Stowage (not permanently secured) NVIC 1-87
 - Vessels < 26 feet may carry 20-inch ring

Number with Lights	Number with Lines	Number of Others
Total Number of Ring Lifebuoys		

Notes: _____

- First aid kit visible and readily available to the crew and properly marked "First Aid Kit" 46 CFR 121.710
46 CFR 160.041

Fire Protection:

- Fire control plan 46 CFR 116.530
 - Permanently posted
 - Copy permanently stored in weathertight container outside deckhouse SOLAS 74/78 II-2/20
- Fire and smoke detection systems 46 CFR 118.115
(required on existing wood / FRP vessels)
 - Sensors tested 46 CFR 118.400(c)
 - Alarms tested 46 CFR 118.400(e)
- Portable and semiportable fire extinguishers 46 CFR 115.810
 - Annual service in accordance with NFPA 10 46 CFR 115.810(b)(1)
 - Date cylinders hydro-tested _____
 - Proper location 46 CFR 118.500
46 CFR 118.520

Required		On Board	
Number	Class	Number	Class

- Fixed firefighting for galley vent hood system 46 CFR 118.400(d)
46 CFR 118.425

Notes: _____

- ☐ **Fixed fire extinguishing systems**
 - Annual service
 - Date cylinders weighed _____
 - Date cylinders hydro-tested _____
 - Sprinklers tested in vehicle spaces
 - Alarms
 - Engine / power ventilation shutdowns tested (engine shutdown not required on existing vessels with CO₂, BUT is required with Halon)
 - Manual ventilation closures on protected spaces
 - Instructions at controls and in space
 - Piping
 - Valves
 - Controls

46 CFR 115.810(a)(2)
 46 CFR 115.810(b)(2)
 46 CFR 118.400
 46 CFR 118.410
 46 CFR 118.420

 46 CFR 119.465(h)
 NVIC 6-72

 46 CFR 122.612

Spaces Protected	Agent	Capacity

- ☐ **Fire main system and stations**
 - Fire main system tested
 - Piping
 - Valves
 - Fittings
 - Number hose stations required _____
 - Fire hose
 - Minimum 5/8-inch hose and nozzle 25-50 feet in length
 - 1.5-inch hose and nozzle (required for vessels > 65 feet and vessels carrying > 49 passengers)
 - Nozzles and spanners

46 CFR 115.810(a)(3)
 46 CFR 118.310

 46 CFR 115.810(c)
 46 CFR 118.320

Number of Hoses Required	Number of Hoses On Board	Diameter of Each Hose	Length of Each Hose

Notes: _____

- Fire axe (vessels > 65 feet) 46 CFR 118.600
 - Located in or near primary operating station
- Fire pumps tested 46 CFR 118.300
 - Piping
 - Manifold and valves
 - Witness water stream

Machinery:

- Main steering system tested 46 CFR 115.814
46 CFR 119.600
46 CFR 58.25
MSM Ch. C4
 - Type _____
 - Rudder packing
 - Hoses
 - Tubing
 - Piping
 - Tiller arms and connectors double-nutted / cotter pinned
- Auxiliary steering system (if required) operable 46 CFR 115.814
46 CFR 119.600
46 CFR 58.25
MSM Ch. C4
 - Type _____
- Main propulsion engine tested 46 CFR 115.804
46 CFR 119.200
46 CFR 121.620
 - Capable of being secure from pilothouse
 - Independent of speed control
 - Foundations
 - Controls 46 CFR 121.620
 - Gauges 46 CFR 119.410(b)
 - Engine RPM / oil pressure / water temperature operational and visible at each operating station
 - Safety devices
 - Lubrication system 46 CFR 115.804
 - Oil / water leaks
 - Engineroom 46 CFR 115.830
 - Clean and free of fire hazards

Notes: _____

- Cooling system 46 CFR 119.420
 - Type of engine cooling system _____
 - Temperature gauges (operating station) 46 CFR 119.410
 - Installation 46 CFR 119.422

- Exhaust system 46 CFR 119.425
 - Type of exhaust cooling system _____
 - Loss of cooling alarm on vessel with wet exhaust (vessels with a separate exhaust cooling pump must have a loss of cooling alarm)
 - Visible / audible
 - Located at operating station
 - Leaks 46 CFR 119.430
 - Seams
 - Elbows
 - Joints
 - Flexible hoses

- Fuel system 46 CFR 115.804
 - Tank space properly vented 46 CFR 119.470
 - > 500 cubic feet = gooseneck > 2.5 inches
 - < 500 cubic feet = gooseneck > 1.5 inches
 - Fuel tank vents 46 CFR 119.450
 - Vent openings not located adjacent to possible sources of vapor ignition
 - 30 x 30 mesh screen
 - Independent fuel tanks grounded 46 CFR 119.440
 - Electrically bonded to a common ground
 - Portable fuel tanks 46 CFR 119.458
 - Stowed on deck in racks
 - “No Smoking” placards posted
 - Shutoff valves tested (tank and engines) 46 CFR 119.455
 - Located at the ends of each fuel line
 - If tank end not located outside of tank space, handle must be within 12-inch reach and shielded
 - Fuel strainers
 - Solid bottom type petcocks with tapered plugs and union bonnets
 - Fuel tank fill hose 46 CFR 119.445
 - Top flange grounded to tank
 - Flexible hoses
 - Termination of filling, sounding or vent pipes outside vessel

Notes: _____

- Ventilation of machinery installations 46 CFR 119.465
46 CFR 119.470
 - Engineroom intake and exhaust ventilation
 - Closure devices for spaces with fixed gas extinguishing system
 - Ducts secured and supported

Ventilators	Number and Type	
	Natural	Forced Air
Machinery Space		
Fuel Tank Space		

- Machinery guards 46 CFR 116.960
 - Installed over exposed gears
 - Belts
 - Rotating machinery
- Vital systems piping 46 CFR 119.710
- Non-metallic piping materials 46 CFR 119.720
46 CFR 56.60-25
- Watertight bulkheads
 - Piping
 - Metallic through fittings 46 CFR 119.710
 - Valves
 - Valve with reach rod 46 CFR 171.111
 - Free of sluice valves 46 CFR 171.114(b)
 - Operable
- Shaft log free of excess leakage 46 CFR 115.800
 - Reasonable dripping
 - Testing ahead and astern
 - Remaining adjustment on stuffing box bolts

Notes: _____

- Bilge pumps tested**
 - Source of power for each pump
 - Overboard discharge
 - Visual indicator for auto bilge pump operation

46 CFR 115.804(h)
46 CFR 119.520(a)
- Portable bilge pump tested**
(vessels < 65 feet)
 - Suction capable of reaching the bottom of all compartments

46 CFR 119.530(b)
46 CFR 119.520(b)
- Bilge piping**
 - Check valves in each compartment or stop / check valves at manifold
 - Valve fitted on collision bulkhead
 - Screw down valve type
 - Operable from weatherdeck if forward; readily accessible if aft

46 CFR 119.510
- Bilge high level alarm**
 - Visible / audible
 - Located at operating stations

46 CFR 119.530
- Deck machinery**
 - Windlass
 - Winches
 - Capstans
 - Controls
 - Guards

46 CFR 115.816
- Pressure vessels required to be periodically tested**
 - Inspected every 3 years

46 CFR 115.812
46 CFR 61.10

Service	Working Pressure	Relief Valve Setting	Date Tested or Examined

Notes: _____

Electrical Equipment:

- Primary power and light system tested 46 CFR 115.806
 - Voltage _____ 46 CFR 120.310
 - Electrical source 46 CFR 120.312
 - Generator
 - Battery
 - Grounding 46 CFR 120.376
- Main engine generators 46 CFR 120.310(b)
- Independent generators 46 CFR 120.320
 - Multiple generators 46 CFR 120.322
 - Independent prime movers
 - Circuit breakers interlocked
 - Parallel operation must meet Subchapter J
- Batteries (and alternator, if required) 46 CFR 120.310
 - Overload protection 46 CFR 120.350
 - Ventilation 46 CFR 120.354
 - Protective covering
 - Battery charger with ammeter connected to charging circuit
 - Cable connectors permanent
 - Corrosion-resistant tray or mounting

Service	Location

Notes: _____

- Switchboards and distribution panels 46 CFR 120.330
 - Circuits and electrical equipment marked and identified 46 CFR 120.220
 - Warning sign for multiple power sources
 - Protective covering
 - Dripshield
 - Overcurrent protection

- Radios fused at main panel 46 CFR 120.392

- Cable, wiring, receptacles, outlets, accessories 46 CFR 120.340
 - Installation
 - Wire type 46 CFR 120.320(d)
 - Wire size 46 CFR 120.340(c)
 - Splices 46 CFR 120.340(p)
 - Connectors
 - Metal wire supports every 24 inches (not required on existing vessels) 46 CFR 120.340(b)
 - Grounding 46 CFR 120.370
 - Overcurrent protection 46 CFR 120.372
46 CFR 120.380

- Miscellaneous motors and controllers
 - Proper location 46 CFR 120.320
 - Grounding 46 CFR 120.372

- Lighting fixtures 46 CFR 120.410
 - Suitable guards
 - Properly secured

- Portable lighting 46 CFR 120.430
 - At least two lights
 - One at operating station
 - One at entrance to propulsion / machinery space

Notes: _____

- Emergency lighting tested 46 CFR 120.432
 - Type _____
 - Automatically activated
 - Not portable
 - Connected to battery charger
 - Operating capacity—2 hours
 - Emergency lighting system that complies w/Sub J (vessels > 65 feet that either carry > 600 passengers or have overnight accommodations for > 49 passengers)

Pollution Prevention:

- Pollution placard posted 33 CFR 155.450
- MARPOL V placard posted 33 CFR 151.59
- Bilges free of oil and trash / debris 46 CFR 115.830
- Marine sanitation device 46 CFR 115.818
46 CFR 121.704
 - Type _____
 - Sanitary
 - Discharge valve secured and locked MSM Ch. C2.K.7.f(1)
 - Tank vent 30 x 30 mesh screen 33 CFR 159.95
 - ¾-full level indicator 33 CFR 159.83

Notes: _____

- Hull and/or structural members gauged for material thickness as needed 46 CFR 115.610
- Fastenings
 - Rivets NVIC 3-68
 - Welding MSM Vol. IV Ch. 6.H
 - Nails, screws, bolts NVIC 7-95
 - Fastenings removed during this inspection
- Internal structural members 46 CFR 115.610
NVIC 7-95
 - Bulkheads
 - Decks
 - Tank tops
 - Longitudinals
 - Floors
 - Frames
 - Intercostals
 - Stiffeners
 - Beams
 - Connections
 - Signs of electrolysis
- Vessel carefully examined for fractures and previous fracture repairs
- Forward peak
- Lazarette
- Solid fixed ballast 46 CFR 116.1200

Notes: _____

Watertight Integrity:

NOTE: *Guidance on watertight and weathertight inspections can be found in MSM Volume II, Chapter 6.F.5.*

- Hatches 46 CFR 116.1160
46 CFR 171.124
MSM Vol. IV Ch. 6.I.5
 - Dogs or other securing appliances
 - Covers
 - Gaskets
 - Coamings

- Airports below weatherdecks MSM Vol. IV Ch. 6.I.4
 - Dogs or other securing appliances
 - Rims or seats
 - Glass
 - Dead covers
 - Hinges and lugs

- Self-bailers and cockpit freeing ports 46 CFR 116.1120
46 CFR 171.145
46 CFR 171.150
 - Check valves
 - Required area

- Compartment or inner bottom drains (drydocking drains)
 - Secure plugs

- Draft marks and load lines 46 CFR 122.602
 - Proper locations
 - Legibly inscribed
 - Proper spacing and size
 - Load line markings verified (vessels \geq 79 feet)

Rudders, Propellers, and Tailshafts:

- Rudder(s) 46 CFR 115.610
 - Skeg
 - Stock
 - Fastenings
 - Bushings

Notes: _____

- Propeller(s) 46 CFR 115.610
 - Locknuts
 - Rope guard

- Tailshaft(s) 46 CFR 115.630
MSM Ch. B3.D.
 - Stern tube and gland
 - Key and keyway
 - Shaft sleeve or liner
 - Struts and strut bearings

Valves and Through-Hull Fittings:

NOTE: Guidance on valves and through-hull fittings can be found in MSM Volume II, Chapter 8.F.

- Sea chests, spool pieces, through-hull fittings 46 CFR 115.610
 - Strainers removed
 - Welds
 - Strainer fastenings
 - Fastenings
 - Branch connections

- Sea valves 46 CFR 115.610
 - Fitted where required
 - Opened for examination
 - Body
 - Guides
 - Threads
 - Seat
 - Stems
 - Discs
 - Plug cocks
 - Holding down bolts
 - Closure tested (local and/or remote)

Ground Tackle:

- Proper ground tackle 46 CFR 121.300
 - Anchors
 - Cables

Notes: _____

Section 6: Special Drydock Extension Underwater Survey

NOTE: Drydock extensions of up to 30 months are available to steel or aluminum K-boats that operate on certain low-risk routes in fresh water. Guidance for conducting these surveys is found in MSM Vol. II/B3.A.4.d.

WARNING: ALL passengers must be removed from vessel prior to removal of sea valves.

Review of Application for Underwater Survey:

- Submitted 90 days before survey date
- Identify diving contractor
 - Number of divers
 - Type of diving equipment
 - NDT and repair capabilities
- Copy of diving operations manual
 - Means of waterborne diver support
- Means of taking rudder bearing clearances
- Sea chest blanks
- Letter from master / chief engineer / person-in-charge
- Diving personnel / equipment
 - NDT qualifications
 - Repair qualifications
 - Video / audio equipment
 - Coast Guard and OSHA safety regulations
- Hull preparation
 - Cleaning method _____
 - Hull openings permanently marked

Notes: _____

- Hull Maintenance and Condition Assessment Program
 - Preventative maintenance plan
 - Annual hull condition assessment
- Preparatory meeting
- Duration of underwater survey _____
- Site selection
 - Sufficient water depth
 - Underwater hazards
 - "Clear box"
- Plans or drawings
 - Shell openings
 - Docking plugs
 - Bilge keels
 - Welded seams and butts
 - Appendages
 - Anodes
 - Rudder
 - Propeller
 - Reference points
 - Watertight and oiltight bulkheads

Underwater Survey:

- Preliminary examination
 - Third party
 - Divers
- Underwater hull exam
 - Third party supervised
 - Ultrasonic gaugings
- On-site survey

Notes: _____

Section 7: Appendices

Recommended US Vessel Deficiency Procedures:

Step	Action								
1	Identify deficiency.								
2	Inform vessel representative.								
3	Record on the <i>Deficiency Summary Worksheet</i> (next page).								
4	If deficiency is corrected prior to end of inspection, go to Step 7.								
5	<p>If deficiency is unable to be corrected prior to end of inspection, issue CG-835 in accordance with table below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">IF deficiency:</th> <th style="text-align: center;">THEN issue CG-835:</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <p>Does NOT immediately impact crew/passenger safety, hull seaworthiness, or the environment, e.g.,</p> <ul style="list-style-type: none"> • Missing placards • Non-metallic expansion joints more than 10 years in service </td> <td style="padding: 5px;"> <p>That provides a specific time for correcting deficiency, e.g.,</p> <ul style="list-style-type: none"> • “X” number of days • At next drydock </td> </tr> <tr> <td style="padding: 5px;"> <p>Allows vessel operations to be MODIFIED to meet less stringent requirements, e.g.,</p> <ul style="list-style-type: none"> • Expired international certificates • Automation defect • Insufficient lifesaving equipment </td> <td style="padding: 5px;"> <p>That restricts operation of vessel to meet current vessel conditions, e.g.,</p> <ul style="list-style-type: none"> • Reduced route • Increased crew • Fewer passengers </td> </tr> <tr> <td style="padding: 5px;"> <p>DOES immediately impact crew/passenger safety, hull seaworthiness, or the environment, and cannot be modified to meet less stringent requirements, e.g.,</p> <ul style="list-style-type: none"> • Missing or defective firefighting equipment • Structural defect or damage </td> <td style="padding: 5px;"> <p>That requires the deficiency to be corrected prior to operating vessel (“NO SAIL” item), e.g.,</p> <ul style="list-style-type: none"> • Prior to carrying passengers • Prior to carrying cargo </td> </tr> </tbody> </table>	IF deficiency:	THEN issue CG-835:	<p>Does NOT immediately impact crew/passenger safety, hull seaworthiness, or the environment, e.g.,</p> <ul style="list-style-type: none"> • Missing placards • Non-metallic expansion joints more than 10 years in service 	<p>That provides a specific time for correcting deficiency, e.g.,</p> <ul style="list-style-type: none"> • “X” number of days • At next drydock 	<p>Allows vessel operations to be MODIFIED to meet less stringent requirements, e.g.,</p> <ul style="list-style-type: none"> • Expired international certificates • Automation defect • Insufficient lifesaving equipment 	<p>That restricts operation of vessel to meet current vessel conditions, e.g.,</p> <ul style="list-style-type: none"> • Reduced route • Increased crew • Fewer passengers 	<p>DOES immediately impact crew/passenger safety, hull seaworthiness, or the environment, and cannot be modified to meet less stringent requirements, e.g.,</p> <ul style="list-style-type: none"> • Missing or defective firefighting equipment • Structural defect or damage 	<p>That requires the deficiency to be corrected prior to operating vessel (“NO SAIL” item), e.g.,</p> <ul style="list-style-type: none"> • Prior to carrying passengers • Prior to carrying cargo
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6	Enter CG-835 data in MIDR.								
7	Enter deficiency data in MSDS.								
8	Initiate Report of Violation (ROV) if necessary.								

Conversions:

Distance and Energy				
Kilowatts (kW)	X	1.341	=	Horsepower (hp)
Feet (ft)	X	3.281	=	Meters (m)
Long Ton (LT)	X	.98421	=	Metric Ton (t)
Liquid (NOTE: Values are approximate.)				
Liquid	bbl/LT	m ³ /ft	bbl/m ³	bbl/t
Freshwater	6.40	1.00	6.29	6.29
Saltwater	6.24	.975	6.13	5.98
Heavy Oil	6.77	1.06	6.66	7.06
DFM	6.60	1.19	7.48	8.91
Lube Oil	7.66	1.20	7.54	9.05
Weight				
1 Long Ton	=	2240 lbs	1 Metric Ton	= 2204 lbs
1 Short Ton	=	2000 lbs	1 Cubic Foot	= 7.48 gal
1 Barrel (oil)	=	5.61 ft = 42 gal = 6.29 m ³	1 psi	= .06895 Bar = 2.3106 ft of water
Temperature: Fahrenheit = Celsius ($^{\circ}\text{F} = 9/5\text{ }^{\circ}\text{C} + 32$ and $^{\circ}\text{C} = 5/9 (\text{ }^{\circ}\text{F} - 32)$)				
0	=	-17.8	80	= 26.7
32	=	0	90	= 32.2
40	=	4.4	100	= 37.8
50	=	10.0	110	= 43.3
60	=	15.6	120	= 48.9
70	=	21.1	150	= 65.6
200	=	93.3	250	= 121.1
300	=	148.9	400	= 204.4
500	=	260	1000	= 537.8
Pressure: Bars = Pounds per square inch				
1 Bar	=	14.5 psi	5 Bars	= 72.5 psi
2 bars	=	29.0 psi	6 Bars	= 87.0 psi
3 Bars	=	43.5 psi	7 Bars	= 101.5 psi
4 Bars	=	58.0 psi	8 Bars	= 116.0 psi
9 Bars	=	130.5 psi	10 Bars	= 145.0 psi